FORSPAN ASSESSMENT MODEL FOR CONTINUOUS ACCUMULATIONS--BASIC INPUT DATA FORM (Version 4, 10-5-00)

IDENTIFICATION INFORMATION

R.M. Flores					Date:	10/18/2000
North America	а				Number:	5
Powder River	Basin				Number:	5033
Tertiary-Uppe	r Cretaceo	us Coalbed Me	thane		Number:	503301
Wasatch Forr	nation				Number:	50330181
PI production	data currer	nt through third	quarter 1999			
Gas is biogen	nic. Anders	on coal of the F	ort Union For	mation as	an analog.	
Oil (<20,000 c al recovery pe	efg/bo) or Government of Gover	as (>20,000 cf, 0.02 (r I > minimum: cells) co for oil A.U.; Probatested cell with tuntested cell w	g/bo) mmbo for oil A Hy bofg for gas A. 2nd 3rd billity of occurre otal recovery > ith total recove	Gas .U.; bcfg fo 0 vpothetical (U.) ence (0-1.0 minimum ery > minim	ano cells) 3rd 3rd)	X 1.0 1.0
						1.0
cation for neces overy <u>></u> minimu	sary petrole	eum-related ac	tivities for an u	ntested ce		1.0
D CELLS WITH	I POTENTI	AL FOR ADDI	TIONS TO RE	SERVES	IN NEXT 30	YEARS
area (acres): (of a fixed valu 4,435,000	•	000 000	mavimum	
			median 4	,669,000	maximum	4,902,000
ed cells having variable)	potential fo minimum					4,902,000
	minimum	40	eserves in nex median	t 30 years 80	(acres): maximum	
	Powder River Tertiary-Uppe Wasatch Forr PI production Gas is biogen CHARAC Oil (<20,000 c al recovery pe with total recov of the second of th	Wasatch Formation PI production data currer Gas is biogenic. Anderso CHARACTERISTIC Oil (<20,000 cfg/bo) or Gal recovery per cell? with total recovery per cell Frontier (1-24 coll) (for cells ≥ min.): (mmb 1st 3rd discovered bilities: troleum charge for an unterecovery, traps, seals for an unterecovery ending for ending fo	Powder River Basin Tertiary-Upper Cretaceous Coalbed Me Wasatch Formation PI production data current through third Gas is biogenic. Anderson coal of the F CHARACTERISTICS OF ASSESS Oil (<20,000 cfg/bo) or Gas (>20,000 cfg al recovery per cell? 0.02 (recovery per cell? 0.02 (recovery per cell) = minimum: Frontier (1-24 cells) cell (for cells > min.): (mmbo for oil A.U.; recovery and discovered Dilities: Probate troleum charge for an untested cell with the tervoirs, traps, seals for an untested cell with total CGIC Probability (Product of 1, 2, and 3 certain for necessary petroleum-related accovery > minimum	Powder River Basin Tertiary-Upper Cretaceous Coalbed Methane Wasatch Formation PI production data current through third quarter 1999 Gas is biogenic. Anderson coal of the Fort Union Formation CHARACTERISTICS OF ASSESSMENT UNIT (COII (<20,000 cfg/bo) or Gas (≥20,000 cfg/bo) Gas (≥20,	Powder River Basin Tertiary-Upper Cretaceous Coalbed Methane Wasatch Formation PI production data current through third quarter 1999 Gas is biogenic. Anderson coal of the Fort Union Formation as CHARACTERISTICS OF ASSESSMENT UNIT (A.U.) Oil (<20,000 cfg/bo) or Gas (≥20,000 cfg/bo) Gas al recovery per cell? 0.02 (mmbo for oil A.U.; bcfg for method for cells ≥ minimum:	Powder River Basin Tertiary-Upper Cretaceous Coalbed Methane Number: Wasatch Formation Number: Pl production data current through third quarter 1999 Gas is biogenic. Anderson coal of the Fort Union Formation as an analog.

TOTAL RECOVERY PER CELL

Total recovery per cell for untested cells having pote (values are inherently variable)					2
(mmbo for oil A.U.; bcfg for gas A.U.) minimum	0.02	median_	0.18	maximum_	3
AVERAGE COPRODU (uncertainty o Oil assessment unit: Gas/oil ratio (cfg/bo)	ICT RATIOS FO f a fixed value) minimum	R UNTESTE	D CELLS median		maximum
NGL/gas ratio (bngl/mmcfg)		<u> </u>		-	
Gas assessment unit: Liquids/gas ratio (bliq/mmcfg)	0	_	0	-	0
	erently variable)	UNTESTED			
Oil assessment unit: API gravity of oil (degrees)	minimum	_	median	-	maximum
Sulfur content of oil (%) Drilling depth (m) Depth (m) of water (if applicable)		_		-	
Gas assessment unit:				-	
Inert-gas content (%)	2.00	_	3.00	_	4.00
CO ₂ content (%)	3.00	_	5.00	_	8.00
Hydrogen-sulfide content (%) Drilling depth (m)	<u>0.00</u>		260	-	0.00 450
Depth (m) of water (if applicable)		_	200	-	750

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO STATES Surface Allocations (uncertainty of a fixed value)

1. Wyoming	represents	97.46	_areal % of t	he assessme	nt unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			98 0		
2. Montana	_represents _	2.54	_areal % of t	he assessme	nt unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			2 0		
3	represents		_areal % of t	he assessme	nt unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					
4	_represents _		_areal % of t	he assessme	nt unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					

5	represents	areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
6	represents	areal % of the asses	ssment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
7	represents	areal % of the asses	ssment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
8	represents	areal % of the asses	ssment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO LAND ENTITIES Surface Allocations (uncertainty of a fixed value)

1. Federal Lands	represents	10.64	_areal % of the assessm	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			25 0	
2. Private Lands	represents	81.00	_areal % of the assessm	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			68 0	
3. Tribal Lands	represents	0.40	_areal % of the assessm	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			0 0	
4. Other Lands	represents	0.23	_areal % of the assessm	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			0 0	

5. WY State Lands	_represents _	7.61	_areal % of the	ne assessme	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity			7		
Portion of volume % that is offshore (0-100%)			0		
6. MT State Lands	_represents _	0.11	_areal % of the	ne assessme	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			0		
7	represents		_areal % of the	he assessme	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					
8	_represents _		areal % of the	he assessme	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					

9	represents	areal % of the asses	ssment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
10	represents	areal % of the asses	ssment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
11	represents	areal % of the asses	ssment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
12	represents	areal % of the asse	ssment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO FEDERAL LAND SUBDIVISIONS Surface Allocations (uncertainty of a fixed value)

Bureau of Land Management (BLM)	_represents _	9.14 areal % of the assessm	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)		<u>21.46</u> 0	
2. BLM Wilderness Areas (BLMW)	represents	areal % of the assessm	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
3. BLM Roadless Areas (BLMR)	represents	areal % of the assessm	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
4. National Park Service (NPS)	_represents _	areal % of the assessm	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			

5. NPS Wilderness Areas (NPSW)	represents		areal % of th	ne assessme	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					
6. NPS Protected Withdrawals (NPSP)	_represents _		_areal % of th	ne assessme	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					
7. US Forest Service (USFS)	_represents _	1.51	_areal % of th	ne assessme	ent unit
7. US Forest Service (USFS) Oil in oil assessment unit: Volume % in entity	represents _ minimum	1.51	areal % of the median	ne assessme	maximum
Oil in oil assessment unit: Volume % in entity		1.51	-	ne assessme	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%) Gas in gas assessment unit: Volume % in entity		1.51	3.54 0	ne assessme	maximum
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%) Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum represents minimum	1.51	3.54 0		maximum
Oil in oil assessment unit: Volume % in entity	minimum represents minimum	1.51	median 3.54 0 areal % of the		maximum

USFS Roadless Areas (USFSR)	represents	areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
10. USFS Protected Withdrawals (USFSP)	_represents	areal % of the asses	sment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
11. US Fish and Wildlife Service (USFWS)	_represents	areal % of the asses	sment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
12. USFWS Wilderness Areas (USFWSW)	_represents	areal % of the asses	sment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				

13. USFWS Protected Withdrawals (USFWSP)	represents	areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
14. Wilderness Study Areas (WS)	represents	areal % of the asses	ssment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
15. Department of Energy (DOE)	represents	areal % of the asses	ssment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
16. Department of Defense (DOD)	represents	areal % of the asses	ssment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				

17. Bureau of Reclamation (BOR)	represents	areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
18. Tennessee Valley Authority (TVA)	represents	areal % of the asses	sment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
19. Other Federal	represents	areal % of the asses	sment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
20	represents	areal % of the asses	sment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO ECOSYSTEMS Surface Allocations (uncertainty of a fixed value)

Bighorn Mountains (BHMT)	represents	5.85	_areal % of the	assessment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			5.85	
2. Northwestern Great Plains (NWGP)	_represents _	15.41	_areal % of the	assessment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			15.41 0	
3. Powder River Basin (PRBA)	represents	78.73	_areal % of the assessment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			78.73 0	
4	_represents _		_areal % of the	assessment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				

5	represents	areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
6	represents	areal % of the asses	sment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
7	represents	areal % of the asses	sment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
8	represents	areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				

9	represents	areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
10	represents	areal % of the asses	sment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
11	represents	areal % of the asses	sment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
12	represents	areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO LAND ENTITIES Subsurface Allocations (uncertainty of a fixed value)

Based on Data as of: Data through 1998			
4. All Fadaral Outaurface consequents 40		4	
All Federal Subsurface represents 48	_areal % of the assessmen	t unit	
Oil in oil assessment unit: Volume % in entity	minimum	median	maximum
Portion of volume % that is offshore (0-100%)			
Gas in gas assessment unit: Volume % in entity		50	
Portion of volume % that is offshore (0-100%)		0	-
Other Subsurface represents 52	_areal % of the assessmen	t unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit:		50	
Volume % in entity Portion of volume % that is offshore (0-100%)		50	
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